

STRATEGY FOR INCREASING WORKING PERFORMANCE OF BROILER IN THE INTEGRATED POULTRY INDUSTRIES: STUDY CASE IN SIERAD PRODUCE CO

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Abstract: The aims of the research are to: identify the supply chain of broiler in Sierad Produce Co; calculate the value added of activities occurring in some supply chain stakeholders; measure the supply chain working performance of broiler in Sierad Produce Co; and formulate strategies recommended to increase the supply chain working performance of broiler in Sierad Produce Co. This research used data analysis methods: Asian Productivity Organization (APO) for analyzing the general situation of supply chain; Hayami mathematical model for processing the data regarding the value added analysis of supply chain stakeholders; SCOR Model for metrical plan of supply chain working performance measure; Analytic Hierarchy Process (AHP) method for determining the metrical weights of supply chain working performance measure; and Analytic Network Process (ANP) for determining the priority of strategic alternatives to increase the supply chain working performance of broiler in Sierad Produce Co. The results of value added analysis have shown that the food processing industries (downstream sector) enjoy the highest value added. Accordingly, the researcher summarized a number of points as follows: Firstly, the highest capital return in the poultry industry is caused by technological factors. Secondly, the supply chain working performance measure result shows that low working performance of commercial farm is caused by non-adaptable company in fulfilling the demand of Chicken Slaughter House. The last, the working performance increase strategic formulation result has shown that increase of Human Resources' skill or ability is the most influential strategical alternative to supply chain working performance increase in Sierad Produce Co.

Keywords: AHP, ANP, poultry industries, supply chain management, SCOR

Abstrak: Tujuan dari penelitian ini adalah mengidentifikasi rantai pasok ayam ras pedaging di PT Sierad Produce Tbk; menghitung nilai tambah yang dihasilkan pada aktivitas yang terjadi pada beberapa anggota rantai pasok; mengukur kinerja rantai pasok ayam ras pedaging di PT Sierad Produce Tbk; dan merumuskan rekomendasi strategi untuk meningkatkan kinerja rantai pasok ayam ras pedaging di PT Sierad Produce Tbk. Metode analisis data yang digunakan pada penelitian ini adalah kondisi umum rantai pasok dianalisis dengan menggunakan model Asian Productivity Organization (APO); data mengenai analisis nilai tambah anggota rantai pasok diolah dengan menggunakan model matematik Hayami; perancangan metrik pengukuran kinerja rantai pasok dengan menggunakan SCOR Model; penentuan bobot metrik pengukuran kinerja rantai pasok dengan menggunakan metode AHP; dan Prioritas alternatif strategi peningkatan kinerja rantai pasok ayam ras pedaging di PT Sierad Produce Tbk ditentukan dengan ANP. Hasil analisis nilai tambah menunjukkan bahwa nilai tambah tertinggi dinikmati oleh industri pengolahan makanan (sektor hilir), sehingga dapat disimpulkan bahwa pengembalian modal tertinggi pada industri perunggasan dikarenakan faktor teknologi; hasil pengukuran kinerja rantai pasok menunjukkan bahwa rendahnya kinerja pada commercial farm dikarenakan perusahaan tidak adaptif dalam memenuhi permintaan RPA; hasil perumusan strategi peningkatan kinerja menunjukkan bahwa peningkatan kemampuan/keahlian SDM merupakan alternatif strategi yang paling berpengaruh terhadap peningkatan kinerja rantai pasok di PT Sierad Produce Tbk.

Kata kunci: AHP, ANP, industri perunggasan, manajemen rantai pasok, SCOR

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INTRODUCTION

Agricultural sector is a sector highly important in the economy of Indonesia. It was the second highest contributor to Gross Domestic Brutto (GDB). It donated about 15% of the total of non-fuel and gaseous GDB (BPS, 2016). In addition to moving the economy, agricultural sector also supports the food needs of the Indonesian society. From four subsectors in the agricultural sector including crops, gardening plants, horticultures, and farms, the farm subsector is an alternative to fulfill animal protein needs for Indonesia besides the fishery subsector. Chicken meat is an animal protein resource which people like to consume. Although it contains high protein level below beef, it has lower price compared to beef. It donated 85.5% of total Indonesian meat consumption in 2015 (Ditjennak, 2016).

The forecast of Indonesian economic growth is the increase of demand for ready-to-cook or ready-to-eat products. Income level change would influence the amount of meat consumption (Amir et al. 2006). In the last five years, the average demand of ready-to-cook and ready-to-eat processed food has increased 6% to 10% (Kemendag, 2015). It shows that ready-to-cook and ready-to-eat processed food industries have good business prospects, including business prospects for companies engaging in processed meat industries. Sierad Produce Co (SIPD) is a big player in chicken processed industry conducting the business of farm field by applying the concept of integrating upstream to downstream. SIPD is an old player in upstream industry engaging in chicken breeding (nurseries), hatcheries, commercial farms, and chicken slaughterhouses. Currently it is trying to expand its market share in processed food product industry with chicken raw material. The position of "Belfoods" brand is below PT Belfoods Indonesia's subsidiary; therefore, Sierad Produce Co is trying to catch the opportunities of ready-to-cook or ready-to-eat food industry. In addition, the company is active to create product innovation aiming at creating uniqueness and competitiveness in domestical markets and export markets in the future.

Vertical Integrated Poultry Business (V-IPB) is an ideal strategy to apply in broiler business (Daryanto, 2009). The system was forecasted that it influenced cost minimization and profit maximization, yet SIPD encountered net selling decrease from 2013 to 2016, and it would automatically affect company net profit

decrease, and it also experienced loss in 2015. In 2016, SIPD was able to increase its net selling, yet this was not accompanied by cost minimization because of cost increases in 2016. This case indicates the existence of bad relation and working performance between sub-systems from upstream to downstream. Accordingly, it can be assumed that there is a problem in the vertical integration process of the company business.

The research on supply chain working performance measure of broiler has never been conducted before in Sierad Produce Co. Accordingly, the above case can be solved by assessing, evaluating, and improving the company supply chain management by applying strategic management. Supply chain management is a strategy providing an alternative for company to maximize its services to consumers by minimizing the costs and considering the profit of working capital (Anatan and Lena, 2008; Marimin et al. 2010). In the long term, supply chain management can form direction for improvement to achieve competitiveness and better working performance (Stonebraker and Liao, 2004).

The aims of the research are to: (1) identify the supply chain of broiler in Sierad Produce Co; (2) calculate the value added of activities occurring in some supply chain of stakeholders; (3) measure the supply chain working performance of broiler in Sierad Produce Co; and (4) formulate strategies recommended to increase the supply chain working performance of broiler in Sierad Produce Co.

The scope of this research was focused on analysis of value added calculation, working performance measure, and supply chain working performance strategic formulation of broiler toward three supply chain members of PT Sierad Produce Tbk, which covers some business unites including commercial farm (CF), chicken slaughterhouse (CSH), and food processing factory (PT Belfoods Indonesia).

METHODS

The research was conducted in 4 (four) locations i.e. in the center office of Sierad Produce Co, representative office of commercial farm, chicken slaughterhouse, and PT Belfoods Indonesia. This research was conducted from January to November 2017. The sampling method in this research was purposive sampling by judgmental sampling technique. The number of respondents was

7 experts i.e. five internal experts and two external experts. According to Prasetya and Jannah (2008), some criteria become the basic considerations when determining or choosing the experts as respondents. This research used two kinds of data: primary and secondary data. Collection of data and information for this research was conducted in various ways such as questionnaires, in-depth interviews, field observations, and literature study. Data analysis methods used in this research were as follows: (1) descriptive-qualitative method developed by Asian Productivity Organization (APO) for analyzing the general situation and model of supply chain, by considering opinions of experts and respondents; (2) Hayami value-added method for processing the data required by interviews with supply chain members regarding to value-added analysis; (3) SCOR Model for metrical plan of supply chain working performance measure; (4) Analytic Hierarchy Process (AHP) method for determining the metrical weights of supply chain working performance measure by conducting steps as follows, score achievement comparison, comparison metrical creation, eigen value breakage, matrix multiplication, Consistency Ration (CR) and Consistency Index (CI) determination; and (5) Analytic Network Process (ANP) for determining the priority of strategic alternatives to increase the supply chain working performance by Super Decisions software. Figure 1 shows the research framework of this research.

Supply Chain Value Added Analysis

The value-added calculation and analysis on broiler supply chain actors were conducted by Hayami Method. Value-added was calculated by considering the interactions among the supply chain actors as appropriate as their aims respectively (Hidayat et al. 2012). The existence of interactions among the actors can give a profit level balanced with the weight of risk, investment, and technology to stakeholders. Mathematically, value-added can be stated as follows. Value-added = $f \{C, R, W, S, P, p, O\}$, in which: C (Capacity of production); R (Raw material used); W (Working labor used); S (Salary of working labor); P (Price of output); p (Price of raw material); O (others (value and all values sacrificed along the process)).

Supply Chain Working Performance Measure

Supply chain working performance measure of broiler in Sierad Produce Co was conducted using SCOR-AHP approach. The bases of SCOR as supply chain working performance measure model in this research were the ability to analyze the supply chain in a systematic framework, increase in the communications among the supply chain actors, and ability to evaluate and plan supply chain model more efficiently (Hwang et al. 2008; Nateghinia et al. 2013).

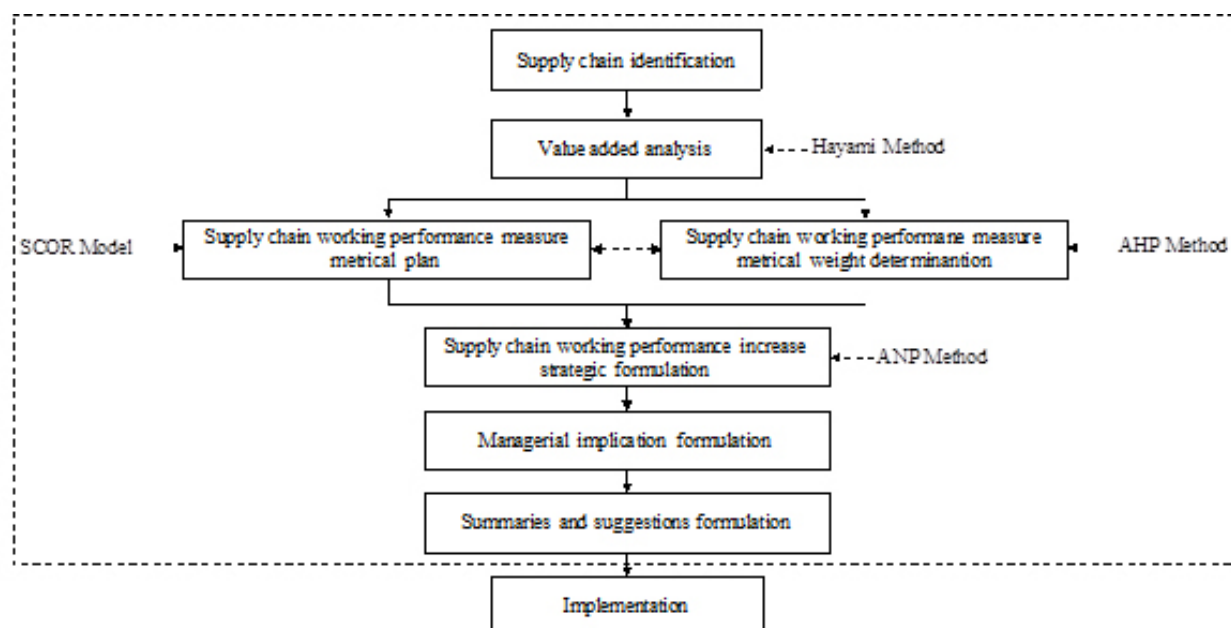


Figure 1. Research framework

According to SCOR 10 framework developed by Supply Chain Council, the supply chain contains some perspectives and dimensions (working performance attributes). Those perspectives include plan, logistic, processing, delivery, and returning while the dimensions include reliability, responsivity, flexibility, costs, and asset management. Each working performance attribute consisting of various working performance matrix covers fulfilling order perfectly, cycle time of order fulfilling, up-supply chain flexibility, up-supply chain adaptability, bottom-supply chain adaptability, total cost to serve, cash to cash cycle time, and return on working capital. Supply chain working performance measure method in this research was formulated into a hierarchy structure. Thus, the evaluation matrix would be stated in a hierarchy form by AHP method with software Expert Choice 11.

Supply Chain Working Performance Increase Strategic Priority

The company needs to integrate SCOR by judging the method to recognize the strategy which it prioritizes for increasing supply chain working performance. The research used judging method of ANP. In ANP method, there are three main steps: firstly, decomposition or analysis to establish a structure of problem complex; secondly, pairwise comparison to measure in ratio scale; and thirdly, composition to synthesize. There is re-unite of all decomposed parts and measure becoming one unite (Liwang, 2011).

ANP method is used to calculate the weight of each potential caution. Therefore, the company can recognize the most dominant problem caution among other cautions by calculating the dependence level among the cluster groups. The ANP method was solved by software SuperDecisions 2.2.8 and expert opinion aggregate by Microsoft Excel. The highest weight value became the strategic priority to achieve the company intention for improving supply chain management working performance.

RESULTS

Description of Broiler Supply Chain in Sierad Produce Co

The supply chain mechanism of broiler in SIPD involves some parties both directly and indirectly from

upstream to downstream. The parties involved directly included feed mills, breeding farms, hatcheries, commercial farms, Chicken Slaughter House (CSH), collectors, food processing factories, HORECA (Hotel, Restaurant, and Café), traditional markets, modern market, food industries, and end-consumers. PT Sierad Produce Tbk produces various products as follows: Commercial farms produce some lively broilers; CSH produces some products including ultimate chicken carcass, fresh-cut chicken, boneless chicken, marinated products, and by products; PT BI produces some processed food products including nuggets, sausages, chicken meatball, corned, and dimsum.

Currently, the broiler production is only for domestic markets. Few years ago, Sierad Produce Co exported fresh-cut chicken to Japan, yet due to the spreading of H5N1 virus in 2004 the Japanese government stopped importing the products. According to the research result, it shows that broiler markets for Sierad Produce Co can be classified into four markets:

1. Institution market. This market group is a business entity which purchases chicken as input for next production process. Each institution has different intentions. This market has limited budget and certain customers.
2. Processed chicken industrial market. Basically, it is a development of institution market, yet it is categorized as distinctive market group because it has more specific products. Its activity is processing chicken becoming various forms of sausages, nuggets, chicken meatball, karage, and etc.
3. Modern market. The market has modern characteristics when the products have fixed prices and distinctive services.
4. Traditional market. The market has traditional characteristics when the sellers and buyers can bargain directly i.e. agents and stock point in housing.

Currently, CSH unite business produces fresh-cut chicken products which have the characteristic as a commodity that has no distinctive brand and is relatively homogeny product. Moreover, it is difficult to differentiate from the same kind of products existing in the markets. Meanwhile, the processed chicken product has a popular brand of "Belfoods" recognized well by the society. It is distributed to consumers by cold chain to maintain the quality and avoid the microorganism activities which can cause meat to decay.

Value Added to Some Supply Chain Stakeholders of Broiler in Sierad Produce Co

Value-added is value increase of certain commodities because it obtains inputs including processing, transporting, or storage in a production (Sudiyono 2002; Fatahilah et al. 2010; Rizqiah and Setiawan 2014); moreover, it is a form of company working performance measure and supply chain. The intention of value-added is measuring rewards accepted by business actors and working opportunities which can be created by commodity system (Sudiyono 2002). The equity of value-added or profits along the supply chain should be fair. The principle of fair profit share and risk between supply chain actors is a demand to create a nice supply chain. In this research the value-added calculation should be conducted in the unite business of commercial farm, CSH, and processed food factory (PT BI).

The unite business of commercial farm focuses in breeding DOC broiler required from company breeding farm. Breeding should be conducted to chicks aging 1 day which are brought by truck from hatchery. Generally chicken breeding should be conducted between 30 to 50 days. The value-added analysis to commercial farm should be conducted for one fattening period of DOC broiler. According to value-added calculation, by selling at number 42% to internal side, the commercial farm will produce value-added at amount of Rp576 per kg by value-added ratio at 3.36%. The commercial farm produces low profit because high cost variable of livestock feed. This phenomenon should be conducted by pressing Feed Conversion Ratio (FCR) because it could decrease the production cost. Similar to this research result, Nguyen et al. (2012) stated that for each kg of pork, the environmental cost in the process is higher than production cost. According to this literature, the biggest factor which causes environmental impact is livestock feed.

The unite business of CSH processes broilers becoming products of ultimate chicken carcass, fresh-cut chicken, and boneless chicken. According to value-added calculation, CSH produces value-added at amount Rp694 per kg chicken carcass, Rp998 per kg boneless breast, Rp1106 per kg boneless thigh, and Rp909 per kg parting-16. The highest value added is acquired from each chicken process becoming boneless thigh product (BTP).

The business unite of processed food factory (PT Belfoods Indonesia) produces processed food with chicken raw material of nuggets, sausages, chicken meatball, corned, and dimsum. Chicken used in the processed food production process are from the unite business of CSH (internal). According to value-added calculation result, PT Belfoods Indonesia produces value-added at amount Rp9,932 per kg nugget, Rp14,255 per kg sausage, Rp17,255 per kg chicken meatball, and Rp5,782 per kg corn/dimsum, in which the highest value-added is produced during the process of chicken meatball for each batch.

According to value-added analysis result, it is recognized that the highest value-added and actors who enjoy the highest profit are upstream industry, which is the unite business of PT Belfoods Indonesia. Food processing industry is an instrument creating value-added to agricultural commodity. Therefore, the role of food processing company is very important for agricultural commodity value increase. While the lowest value-added and the actors who enjoy lowest profit is commercial farm. The factor influencing high value-added in the downstream industry is technological factor. In the downstream industry, most activities are conducted by machine. Low profit factor in commercial farm is caused by more use of working labor than downstream industry. Therefore, it can be assumed that the highest of return to capital in poultry industry is created by machine.

Setiawan et al. (2011) and Nurhayati et al. (2016) explained that value-added acquired from farmers is lower than processor level because the farmer level has the highest environmental cost. Some researches show that the highest environmental impact of broiler supply chain is in farmer level. This case becomes a challenge for the farmers to be more efficient in using resources. Accordingly, it can press the production cost and environmental cost.

Supply Chain Working Performance of Broiler in Sierad Produce Co

Research on supply chain working performance of broiler in Sierad Produce Co needs to be conducted for recognizing the working performance of each business unite involved in the supply chain. The research on supply chain working performance of broiler in PT Sierad Produce Tbk had never been conducted before. Supply chain working performance measure aims to

support intention, evaluation, working performance, and action determination in the future toward strategic, tactic, and operational levels (Gunasekaran et al. 2001). Supply chain working performance measure of broiler in Sierad Produce Co was conducted based on SCOR (Supply Chain Operations Reference) framework. SCOR is one of the best strategies developed for measuring supply chain management (Christensen et al. 2007).

Arrangement and Weighting Working Performance Matrix

Structure and synthesis results of working performance measure matrix weighting can be viewed in Figure 2. Based on the weighting result, it shows in the business process level that plan at a weight value of 0.345 is the most important business process compared to other processes. Supply chain members consider the importance of planning process in the ultimate of supply chain process because it is the main part in performing process, including logistics, productions, distribution and returning, and supply chain coordination with finance department. Planning of raw material, production, distribution, and fulfilling and increasing the customer satisfaction and company competitiveness (Iriani, 2009) are the keys of success.

In the working performance parameter level, value-added (company profit) at a weight value of 0.419 is working performance parameter which contributes mostly to supply chain members. If the value-added from business process is higher, the business process is more effective. The value-added produced from each division can be increased if Limited Company has maximized its supply chain management in an integrated way (backward-forward linkage).

In the working performance attribute level, reliability at a weight value of 0.360 becomes the main consideration because this attribute is very important in determining confidence relationship between business actors and consumers. Working performance matrix which is more important than other working performance matrix in the supply chain management side is fulfilling order completely at a weight value of 0.360. Fulfilling order completely is a percentage of order which fulfils delivery working performance by ultimate and accurate documentation and no delivery breakage, and on time by consumer perception.

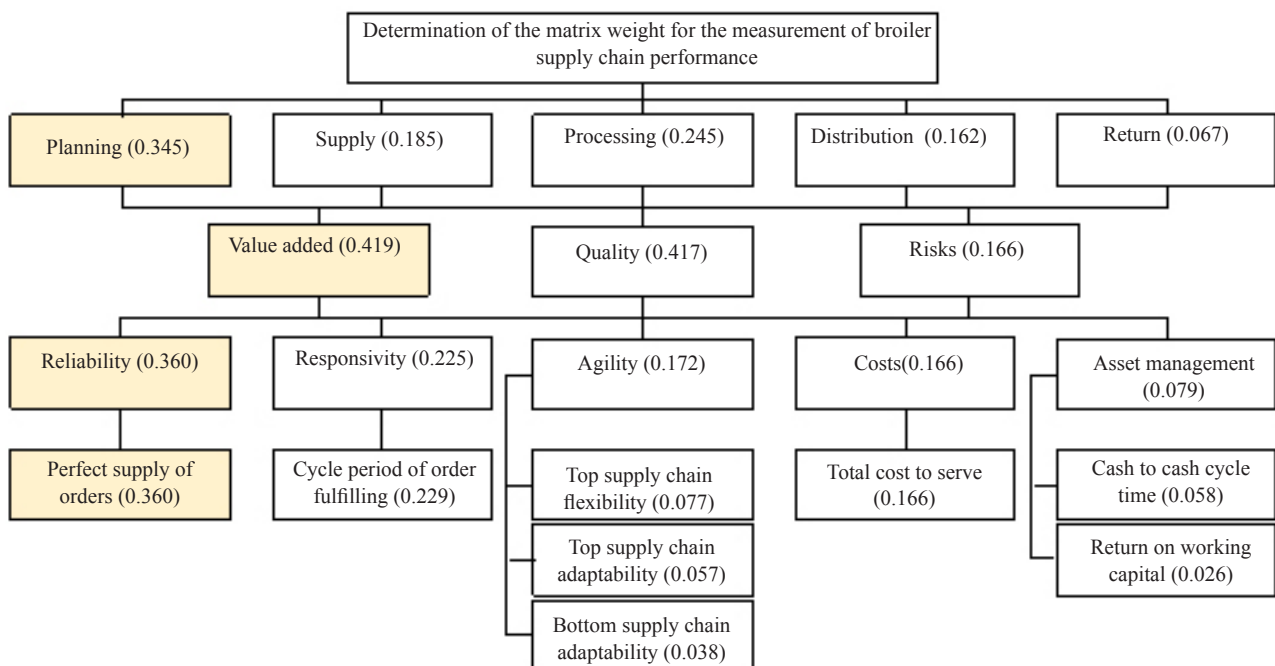


Figure 2. Structural weight of SCOR – AHP

Supply Chain Working Performance Measure Result

According to supply chain working performance measure result of broiler in Sierad Produce Co by SCOR (Table 1), supply chain working performance value of broiler in the business unite of commercial farm (CF) has the lowest value of 76.60% (below average criterion), followed by CSH business unite, with the working performance value of 88.90% (average criterion), and the highest is in the processing unite of PT BI, with a working performance value of 96.20% showing that working performance in the processing unite of PT BI is categorized into an excellent criterion. Supply chain working performance value aggregate in PT Sierad Produce Tbk is 87.20% categorized as average by working performance criteria. Supply chain measure working performance criteria value referred to Monczka et al. (2009). Low working performance value in the commercial farm is caused by low asset management working performance attribute value (3.27%). The components forming asset include cash cycle and profit on working capital. According to research result, the profit on working capital is still far from achievement target. In addition, low working performance in the business unite of commercial farm is also caused by adaptability of working performance attribute at the value of 0.00%. In this case, the business unite of commercial farm is non-adaptive to fulfill the needs of its main customer, which is the business unite of CSH. The business unite of commercial farm is non-adaptive because it produces broilers by making to stock. Therefore, it cannot fulfil the sharp increase demand of CSH business unite in the feast day. Accordingly, the business unite of CSH needs to supply lively birds from external side.

Table 1. Supply chain working performance value in SIPD

Working performance attribute	Value (in %)		
	CF	CSH	PT BI
Reliability	26.35	29.83	37.86
Responsivity	26.93	22.30	24.16
Adaptability	0.00	17.20	10.29
Cost	20.05	14.27	15.65
Asset management	3.27	5.30	8.24
Total	76.60	88.90	96.20

Strategic Recommendation for Increasing Supply Chain Working Performance in Sierad Produce Co

The formulation of supply chain working performance increase strategic priority was conducted after obtaining the analysis result and some indicators influencing the supply chain working performance. Strategic priority determination was conducted by Analytic Network Process approach to recognize the influence level of each element by considering feedbacks between indicators. At last, the influence level of inner dependence and outer dependence could be recognized. Accordingly, the judgement (assessment) for determining strategic alternatives could be supported based on that result.

The indicators used to determine the supply chain working performance increase strategic priority can be classified into three clusters including factors, stakeholders, and strategic alternatives. The cluster "factor" consists of value creation, regulation, reliability, and human capital. The cluster "stakeholder" consists of holding, commercial farm, chicken slaughter house, and PT Belfoods Indonesia while the cluster "strategic alternative" consists of five elements: 1) Increasing the ability and skills involving human capital, 2) Applying traceable system in an integrated way, 3) Increasing the cooperation between the stakeholders and involved institutions, 4) Adding the capacity of cold storage, and 5) Developing the capability of company's R&D. Figure 3 shows the general framework of strategic increase.

Strategic alternative priority is an aggregate of three expert opinions, consisting of two internal respondents and one external respondents. In the cluster factor, the element becoming the first priority is human capital with the weight value of 0.3625. The element becoming second priority is value added creation with the weight value of 0.2956. Reliability becomes the third priority element with the weight value of 0.2016, and the last priority element is regulation with the weight value of 0.1403. In the cluster stakeholder, element becoming the main priority is PT Belfoods Indonesia with the weight value of 0.3300; the second priority is chicken slaughter house with the weight value of 0.2880; the third priority is commercial farm with the weight value of 0.2011, and the last priority is holding with the weight value of 0.1809. In the cluster strategic alternative, the element becoming the main priority is increasing the ability and skill by education and training human capital with the weight value of 0.2797. The second priority element is

increasing the capabilities of company's R&D with the weight value of 0.2492. The third priority element is applying traceability system in an integrated way with the weight value of 0.1718. The addition of cold storage capacity is the fourth priority element with the weight value of 0.1594, while the last priority with the weight value of 0.1401 is increasing the cooperation between stakeholders and involving institutions.

The cluster factor figures out the factors influencing the success of supply chain activities in SIPD. The elements in this cluster consist of reliability (flexibility),

regulation, value added creation, and human capital. Figure 4 indicates the priority of cluster factor. According to the result, the element of human capital has the highest value, indicating that human capital is very influential to company success in achieving its aims. The human capital functions to run the input owned by company maximally to obtain the result wished by the company. Therefore, the company needs to plan the working labor because it can give a positive value to company by running the company effectively and efficiently.

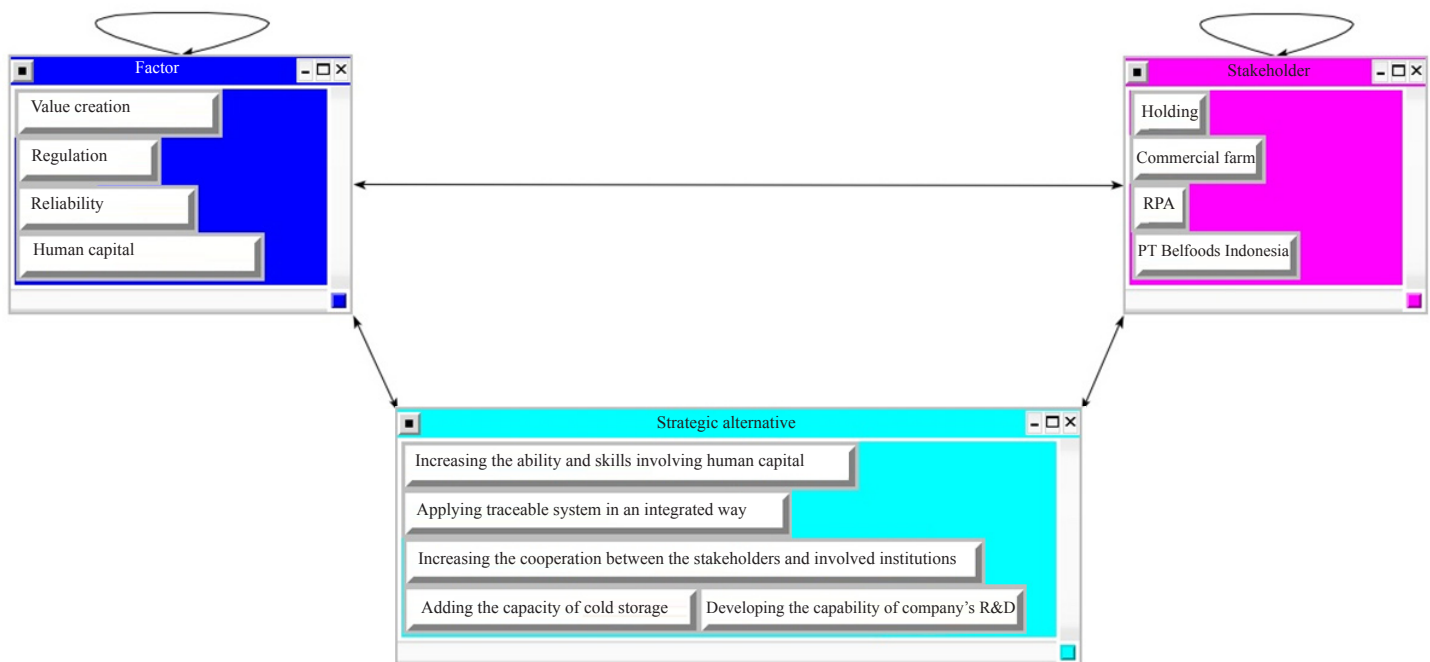


Figure 3. Framework of supply chain working performance strategy

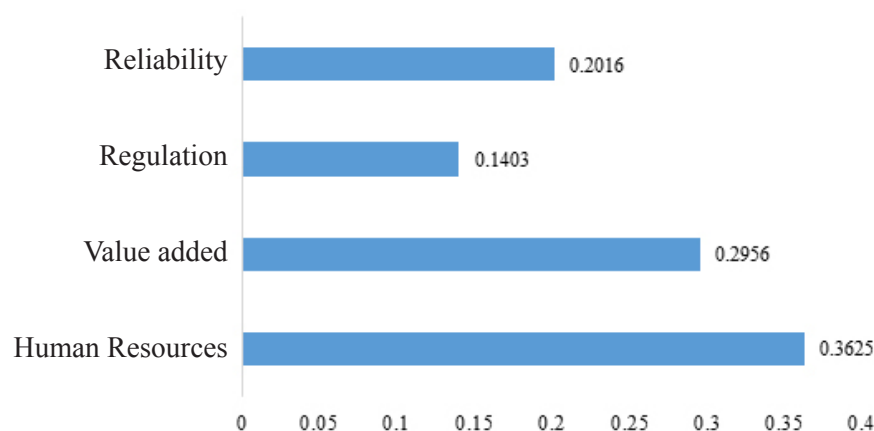


Figure 4. The priority of cluster factor

The cluster stakeholder figures out the scope of supply chain members in the research. The supply chain members include holding, commercial farm, chicken slaughter house, and PT Belfoods Indonesia. Figure 5 shows that PT Belfoods Indonesia is the main priority of supply chain working performance increase among the other stakeholders at a weight value of 0.3300. The second priority is chicken slaughter house at a weight value of 0.2880. Next priority is commercial farm at a weight value of 0.2011. Holding is a stakeholder that has the least weight value of 0.1809. The result of cluster stakeholder shows that PT Belfoods Indonesia and chicken slaughter house are the most influential stakeholders in achieving supply chain working performance increase of broiler in SIPD. PT Belfoods Indonesia is stakeholder in the downstream of Limited Company which has a role in processing the raw material becoming new product and has big opportunity to increase the added-value of broiler product supply chain. PT Belfoods Indonesia and chicken slaughter house have big influences in the supply chain working performance increase effort. This is because PT Belfoods Indonesia is a big player in the processed meat industries in Indonesia, while chicken slaughter house of SIPD is the biggest chicken slaughter house facility in Indonesia.

Reliability, Regulation, Value added, Human Resources

The result of cluster strategic alternative shows that the highest priority strategic alternative to implement is increasing the ability and skills of human capital involved in the aspect of technical skill or managerial

capability or both (Figure 6) at weight value 0.2797. It relates to non-optimum working performance of human capital in the business unite of commercial farm and CSH, and it is caused by miss-communication in the business unite of commercial farm in fulfilling the lively/live bird demand of CSH's business unite. Therefore, it needs Siera Academy program to increase the ability and skill of human capital for optimum application latest technology. The rules relating to incentive is required to produce laborers who are more productive and can contribute more. In the business implementation of integrated poultry business in Indonesia, the barrier often encountered is chicken over-supply; as a result, chicken price in the domestic market is under pressure (DBKPBP, 2016).

The second priority strategic alternative to increase supply chain working performance is developing the capability of company's R&D. By applying that strategic alternative, the company can increase productivity and competitiveness because of efficient and effective process and high quality produce, and it needs to stimulate private R&D and innovation by long-term strategy (Moncada-Paterno-Castello and Grassano, 2014). According to Purnomo and Santosa (2014), marketing and operational capabilities contribute positively to company working performance. This contribution is mainly in the activities related to what product, and how to produce and send the product to consumers. In this case, capability is the main resource for competitiveness and superior working performance; therefore, capability contribution in both functions will support company working performance.

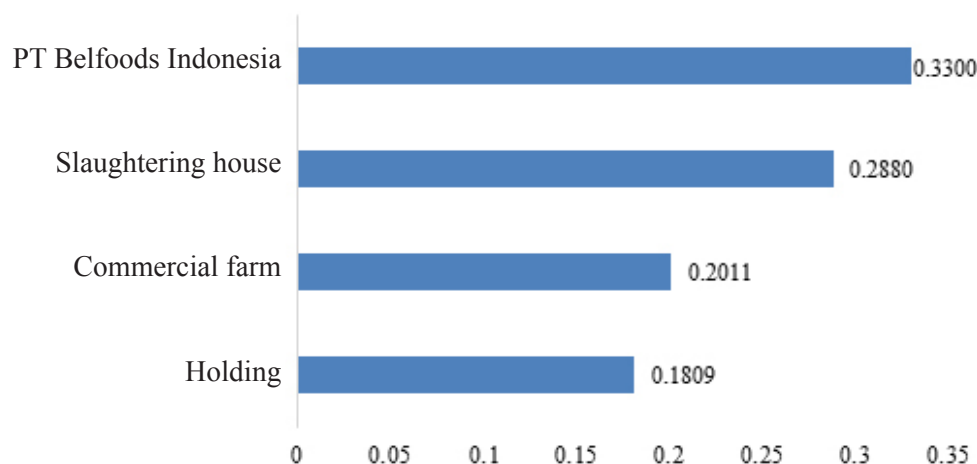


Figure 5. The priority of cluster stakeholder

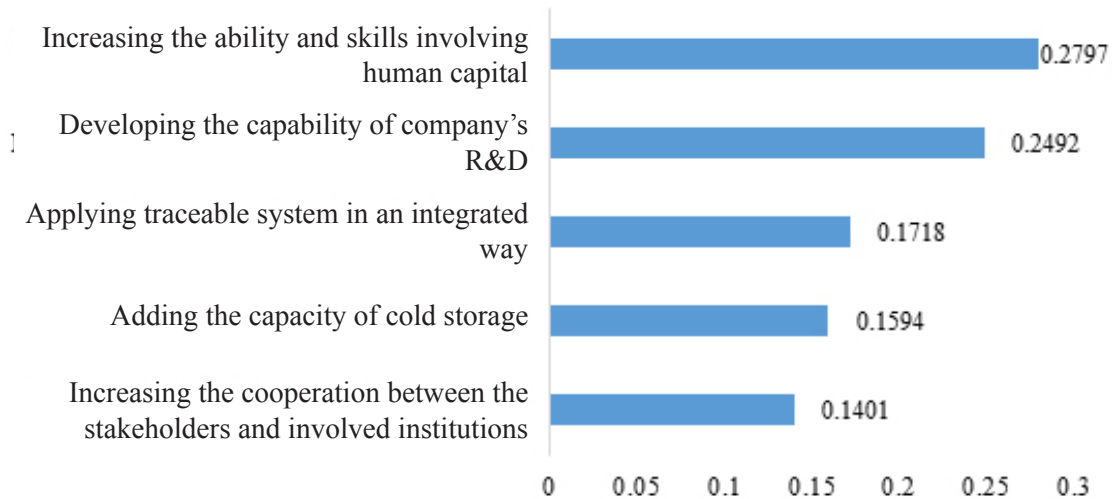


Figure 6. The priority of cluster strategic alternative

Strategic alternative becoming the next priority is addition of the capacity of cold storage. Basnet (2013) stated internal supply chain refers to the chain of activities or functions within a company that results in providing products to the customers. Integration of these functions involves the holistic performance of activities across departmental boundaries. A well-integrated internal supply chain should result in excellent customer service and company performance. Adding the capacity of cold storage is an implementation of cold chain for developing internal supply chain. Fresh-cut chicken product can be stored temporarily in the facility of cold storage. Anonym (2015) stated that meat production requires a shelter area as product diversification effort, which indirectly can stand chicken price fluctuation in the market.

The last strategic alternative is increasing the cooperation between the stakeholders and involved institutions. According to Purnomo and Santosa (2014), the supply chain integration process has a positive impact to company working performance. In this context, the good roles of supply chain management is highly important to increase supply chain working performance. The SCM competitiveness is conducted by the company by applying strategies to perform the flow of products or goods in the supply chain efficiently. In other words, SCM model implements how distribution and production activity networks of the company can synergize to fulfil consumers' demand. The important things that should be conducted include delivering or sending products on time for customer satisfaction, decreasing costs, increasing all results of supply chain ultimately (not just one company),

decreasing time, and centering the activity of plan and distribution. Therefore, supply chain partnership is also important. Strong partnership presses sustainable cooperation, which covers better planning and problem solution altogether. Supply chain integration increases efficiency and productivity and a key to obtain company competitiveness, thereby creating a synergy.

Managerial Implication

A number important things to be conducted in increasing supply chain working performance and competitiveness as follows: 1) in the organization level, commercial farm should maximize live bird supply to CSH PT SIPD (maximize internal chain) in increasing value-added (profit level); 2) in the corporate level, in increasing value-added, SIPD should create a partnership pattern with domestic/local farmers properly and in an integrated way by still considering the supply quality and continuity; 3) in the corporate level, it needs a preparation in increasing the ability and skills of human capital involved in Sierad Academy to obtain optimum latest technology application; 4) in the organization level, it needs a traceability system (product traceability system including raw material resources, price information and market absorption power which are integrated from farms to retailers; accordingly, track and trace broilers from both farms and retailers and in reverse should be conducted; 5) in the functional level, it needs the capability of company's R&D to obtain antibiotic substitution to increase product quality. It is a new standard in selling chicken carcass in order to compete well with other farm produce in the international market.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the research result, the summary as follows was obtained. 1) The supply chain mechanism of broiler in SIPD involves some sides, from upstream to downstream including feed mill, breeding farm, hatchery, commercial farm, commercial farm, chicken slaughter house, collector, food processing factory, HORECA, traditional market, modern market, food industry, and end-consumers; 2) the result of value-added analysis has shown that the highest value-added is enjoyed by food processing industry in downstream sector (PT Belfoods Indonesia); accordingly, it can be summarized that the highest return to capital in the poultry industry is caused by technological factors in which most activities are conducted by machine; 3) the result of supply chain working performance measure has shown that low working performance in the commercial farm is caused by non-adaptive company in fulfilling CSH's demand; 4) the result of strategic increase formulation has shown that increasing ability or skills involving human capital and development of R&D is the most influential strategic alternative to increase supply chain working performance increase in SIPD.

Recommendations

For further research, research on working performance measure and value-added calculation in the business unite of feed mill and breeding farm should be conducted. It also needs to calculate the risk analysis and marketing value-added as factors for evaluating supply chain working performance.

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